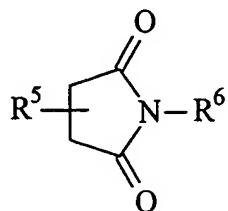


CLAIMS

1. A method of preparing additives for lubricating materials on the basis of chemically modified nanosized particles of molybdenum trisulfide and derivatives thereof, characterized in that the nanosized particles of molybdenum trisulfide and derivatives thereof are prepared from salts of thiomolybdic acid of the general formula $M_2MoS_{4-x}O_x$, where M is NH_4 , Na, x is 0-3, in the presence of two modifiers, where tetraalkylammonium salts or mixtures of salts of the general formula $R^1R^2R^3R^4NX$ are used as the first modifier, wherein R^1 , R^2 , R^3 and R^4 are identical or different and are selected from the group consisting of C_1-C_{16} alkyl, X is Cl, Br, while derivatives of succinimide of the general formula

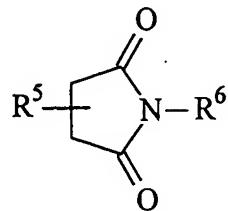


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are used as the second modifier, wherein R^5 is normal or branched alkyl or oligoalkylene having a molecular weight of from 140 to about 1000, R^6 is selected from the group consisting of H, $-C(=O)NH_2$, $-(CH_2CN_2NH)_nCH_3$, n is 1 – 4,

15 wherein the process is carried out by thermally processing a homogenized in a polar solvent mixture of said salt of thiomolybdic acid and said first or second modifier, cooling the obtained mixture and subsequently adding said second or first modifier, respectively.

2. A method of preparing additives for lubricating materials on the basis of chemically modified nanosized particles of molybdenum trisulfide and derivatives thereof, characterized in that the nanosized particles of molybdenum trisulfide and derivatives thereof are prepared from salts of molybdic acid of the general formula M_2MoO_4 , where M is NH_4 , Na, and a sulfur donor, which is an inorganic sulfide or polysulfide of the general formula M'_2S_n wherein M' is NH_4 , Na, n is 1 – 4, or thiourea, in the presence of two modifiers, where tetraalkylammonium salts or mixtures of salts of the general formula $R^1R^2R^3R^4NX$ are used as the first modifier, wherein R^1 , R^2 , R^3 and R^4 are identical or different and are selected from the group consisting of C_1-C_{16} alkyl, X is Cl, Br, while derivatives of succinimide of the general formula



are used as second modifier where R⁵ is normal or branched alkyl or oligoalkylene having a molecular weight of from 140 to about 1000, R⁶ is selected from the group consisting of H, -C(=O)NH₂, -(CH₂CN₂NH)_nCH₃, n is 1-4,

5 wherein the process is carried out by thermally processing a homogenized in a polar solvent mixture of said salt of molybdic acid, and said first and/or second modifier, cooling the obtained mixture and subsequently adding said second and/or first modifier, respectively.

3. The method according to claim 1 or 2, characterized in that the thermal processing is carried out at a temperature of 150 to 220°C for 1 – 2 hours.

4. The method according to claim 1 or claim 2, characterized in that methanol, ethanol, 10 propanol, isopropanol, n-butanol, isobutanol, 2-butanol, acetone or benzene is used as the solvent.